

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appl. No. : 09/976,931 Conf. No. 2047
Applicants : Clifford L. Hersh
Filed : October 11, 2001
Art Unit : 2195
Examiner : Syed J. Ali
Title : System and Method for Deferred Rebalancing of a
Tree Data Structure
Docket No. : PA1951US
Customer No. : 22830

DECLARATION UNDER 37 C.F.R. § 131

- [0001] Clifford L. Hersh, Applicant for the above-referenced application, hereby declares as follows:
- [0002] I am an inventor of the invention disclosed and claimed in the above-referenced application.
- [0003] During the period of time the subject matter of this application was being developed, and continuing to this day, I was employed by Ants Software, Inc.
- [0004] Prior to October 4, 2001, I conceived and reduced to practice the invention as claimed in this application.
- [0005] Attached hereto as Exhibit 1 is a copy of an e-mail between Attorneys Doug Mackenzie and Randall Gard and dated August 16, 2001 and entitled, "ANTS 1951." The e-mail includes an attachment entitled "Claims to the rebalancing system.doc." Attached hereto as Exhibit 2 is a copy of the first page of this attachment. This first page includes Claim 1 of the current application as

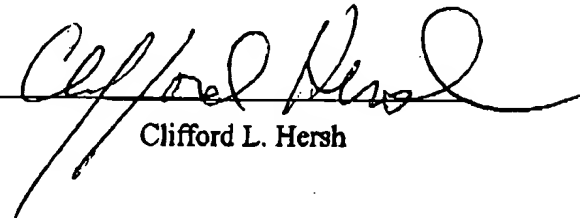
filed. This claim recites those limitations of the current claims that the Examiner suggests is taught by LARS JACOBSEN et al.

[0006] I, therefore, claim priority under 37 C.F.R. § 131 over "Complexity of Layered Binary Search Trees with Relaxed Balance" by LARS JACOBSEN et al. as. Published in Proceedings of the 7th Italian Conference on Theoretical Computer Science 2001 October 04 - 06, 2001.

[0007] I hereby declare that all statements made herein of my own knowledge are true and that all statements made herein on information and belief are believed to be true and, further, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. § 1001 and that such willful false statements may jeopardize the validity of this application or any patent issued thereon.

Date:

Jan 13 2007


Clifford L. Hersh

Steven Colby

From: Doug Mackenzie [dmackenzie@carr-ferrell.com]
Sent: Thursday, August 16, 2001 10:12 AM
To: 'randygard@carr-ferrell.com'
Subject: ANTs 1951

Attachments: Claims to the rebalancing system.doc

Exhibit 1

Hi Randy:

Please see attached claims. I spoke with Cliff re the relationship between 16 and 64K and am having steve work out the relationship. It has to do with the number of steps in a binary search of the tree.

Doug

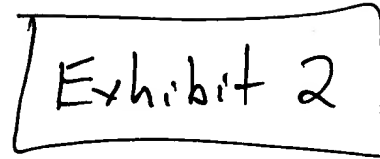


Claims to the
rebalancing syst...

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Claims to the deferred rebalancing system



1. A method of reducing the number of times a data tree structure is rebalanced comprising the steps of:
 - (a) allowing a sub-tree of the data tree structure to grow unbalanced to a threshold level greater than one; and
 - (b) rebalancing the data tree structure when the threshold level is reached.
2. The method of claim 1 wherein the threshold level is 16 for a data tree structure having about 64K nodes.
3. The method of claim 1 wherein the threshold level is a constant number of levels greater than a level of a balanced portion of the data tree structure.
4. The method of claim 1 wherein the step of rebalancing the data tree structure further comprises:
 - (a) developing first and second sets of rebalancing operation tasks in a first phase, the first set of operation tasks operable to effect a first set of element state transitions and the second set of operation tasks operable to effect a second set of element state transitions, the first and second set of element state transition being distinct one from the other; and
 - (b) performing the second set of operation tasks in a second phase.